A busy two months for meteor observers

The Geminids in December

During last year’s very favourable display, peak Geminid Zenithal Hourly Rates (ZHR) approached 140 meteors/hr. This year, Geminid activity is expected to peak around dawn on Tuesday December 14. The maximum is broad, however, and it is important to have a spread of observers making observations during the pre-dawn hours of Dec 13 and 15 to cover the shower maximum well.

Active from Dec 7–16, but with a slow rise to maximum, the Geminids are currently the most active of the regular annual showers, with rates outstripping those of the Perseids for a 24-hour interval centred on the peak – a real treat for observers prepared to brave the winter cold and damp.

The Geminid radiant (at RA 07h 32m, Dec +33°, just north of Castor) rises early and reaches a respectable altitude well before midnight, but observers will achieve better results in the early morning hours this year because, as for the Leonids, the waxing gibbous Moon (in Pisces for the Geminids) will rather hamper observations earlier in the night.

The early morning hours of Dec 14, as dawn approaches, are likely to yield the best observed rates this year, but watches on the mornings of Dec 13 and 15 should also be worthwhile, with the radiant still high in the sky.

Geminid meteors enter the atmosphere at a relatively slow 35 km/sec, and thanks to their robust (presumably rocky/asteroidal as opposed to dusty/cometary) nature tend to last longer than most in luminous flight. Unlike swift Perseid or Orionid meteors, which last only a couple of tenths of a second, Geminids may be visible for a second or longer, sometimes appearing to fragment into a train of ‘blobs’. Their low speed and abundance of bright events makes the Geminids a prime target for imaging.

Associated with an asteroid – (3200) Phaethon – rather than a comet, the Geminid shower has grown in intensity since the 1980s as a result of the meteor stream orbit being dragged gradually outwards across that of the Earth. A consequence is that we currently encounter the most densely-populated parts of the stream. This happy situation is unfortunately only temporary – in a few more decades, Geminid displays can be expected to diminish in intensity. Here we have an excellent opportunity to follow, year on year, the evolution of a meteor stream.

The Quadrantids in January

The New Year opens with very favourable conditions for the Quadrantids, one of the three most active regular annual showers. Active from January 1–6, the Quadrantids have been poorly observed in recent years thanks to a combination of factors – a very narrow period of high activity, poor January weather, and moonlight interference in at least one year out of three! However, when the shower was last well-covered by BAA observers, a peak ZHR of 100–120 m/hr was found. Unfortunately, activity is close to peak levels for only about six hours: at other times, only a ‘trickle’ of a few meteors per hour might be detected. The Quadrantid radiant (RA 15h 28m, Dec +50°) actually lies in northern Boötes, and from the latitudes of the British Isles it is circumpolar.

Timing of the Quadrantid peak in 2011 January is quite favourable from the UK perspective, especially as the peak coincides with new Moon, so there will be a complete absence of interference from moonlight. The shower maximum is expected around Jan 04d 00h UT, midnight at our longitudes. Although the radiant is rather low in the northern sky during evening, it rises higher by midnight and climbs to a very favourable elevation as dawn approaches. Observations in the hours after midnight on 2011 Jan 3/4 will be the most productive. Much of the high activity close to the peak comprises moderately bright to faint meteors. As a result of particle-sorting, brighter Quadrantids (produced by larger meteoroids) become more numerous following the maximum, and this might be evident by dawn on Jan 4. Quadrantids are, like the Geminids, relatively slow meteors, with an atmospheric entry velocity of 42 km/sec. The brighter shower members are sometimes strongly coloured (often blue or green).

The stream’s dynamic orbital history – much perturbed by Jupiter’s gravity – has made identification of its parent body complicated. Recent studies have suggested that
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the Quadrantids may be debris from asteroid 2003 EH1 (similar to the Geminids!), a possible break-up product of Comet 1490Y1 following the latter’s close approach to Jupiter in 1650.

The Quadrantids can certainly be listed as a shower very much in need of observation – so why not make it your New Year’s Resolution to start 2011 with a few hours of meteor watching between midnight and dawn on January 4. And observers who have been out Quadrantid watching during the early morning hours of January 4 can reward themselves with a most interesting partial eclipse of the Sun at sunrise that same day.

For further information, or copies of report forms, observing notes, and details of how to carry out group meteor watches, please visit the BAA Meteor Section website at http://britastro.org/meteor or contact the Acting Director, who will be pleased to answer any queries regarding further aspects of visual meteor work.

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From the President

‘Stargazing LIVE’
The BBC is planning a 3-part astronomy series called ‘Stargazing LIVE!’ to be shown on BBC2 at 8pm on 2011 January 3, 4 and 5. This will be presented by Prof Brian Cox and Dara O’Briain and will feature live broadcasts from Jodrell Bank and possibly other sites in the UK, plus live images from spacecraft and telescopes around the world. As well as providing a general guide to the night sky, the programmes will feature Jupiter and Uranus, the Quadrantid meteor shower which peaks on the night of January 3/4, and the partial solar eclipse on the morning of January 4. The intention is to provide practical guidance on observing and photographing the night sky, and to make this an interactive event by encouraging people to share their own images.

BBC regions around the country will also be involved and there may be opportunities for individual BAA members and their local astronomical societies to contribute to the event. At the time of writing details are still sketchy but we will be keeping in close touch with the BBC’s developing plans and will pass on information as we get it via e-bulletins and the BAA blog.

By Jove, time for a star party?
With Jupiter high in the evening sky and the Moon at 1st quarter on December 13, there is no better time to invite your neighbours and friends round to show them why you are so fascinated by astronomy. The Moon shows spectacular surface detail, and Jupiter will reveal the main features of its turbulent atmosphere in even a modest telescope. And of course there are the four satellites, the same ones Galileo watched change position from night to night four centuries ago in 1610, as it gradually dawned on him that this was like a night to night four centuries ago in 1610, as it ones Galileo watched change position from...
Mars in 2009–2010: 2nd interim report

General
Despite the extremely cold winter and difficult observing conditions, reports were received from some 120 observers, and the telescopic work has continued (remarkably) till late August this year. Most observers managed considerably fewer observations than in recent years. Current work was briefly discussed in the 1st interim report,1 in the Reports of Council,2,3 and in two E-circulars.4,5

Albedo features
These seemed quite similar to 2007–'08, except that liquefactions had largely returned to its former shape and orientation. The map by Martin Lewis (Figure 1) nicely summarises the present appearance of the markings. The patchy linear feature in Aethiopis (produced by the 2007 global dust storm) persists, as shown in Bill Leatherbarrow’s image (Figure 2A). According to Figure 1 and to David Arditti’s image in Figure 2B, the dark streak across Noachis (also generated by the 2007 global storm) continues to exist in place of Pandorae Fretum.

Dust storms
In 2009 Nov, Bill Flanagan (USA) and others caught a small dust storm in Utopia, which was surely created by a small frontal system. One example from a long sequence of images by Andrea Tasselli (Figure 2D) will appear in the final reports. Another N. polar dust event, the subject of BAA E-circular no. 472,5 was observed in late 2010 Jan in Baltia. It soon disappeared, but a slight orange tint remained upon the cap (drawn by David Gray in Figure 3C) was beginning to emerge, and was notified to observers by BAA E-circular no. 467.5 This feature had been observed in the 1990s series of aphelic oppositions, but better quality imaging has revealed it in much greater detail this year. The cap sometimes showed an irregular edge, as shown by Ken Howlett in Figure 3D. Long after opposition, observers were able to catch Olympia separated from the cap.

Orographic clouds
We were well placed to see the evening orographic clouds this time, over the Tharsis Montes, Olympus Mons and also Elysium Mons. One example from a long sequence of images by Andrea Tasselli (Figure 2D) will suffice: the Director also had many fine views of these features. After opposition the Tharsis Montes (as well as Olympus Mons) showed up as dusky spots on the morning side of the disk.

White clouds
The Equatorial Cloud Belt (ECB) appeared seasonally right on schedule, and was caught in many post-opposition observations. Paul Abel’s blue light drawing (Figure 3A) shows an apparently continuous belt of white water-ice cloud from limb to limb. Observations in blue light will always enhance white clouds: Peter Grego’s drawing (Figure 3B) shows other white clouds over Elysium, the morning limb, etc.

N. polar cap
The shrinkage of the cap was followed in great detail. From 2009 Nov onwards, an annular rift (drawn by David Gray in Figure 3C) was beginning to emerge, and was notified to observers by BAA E-circular no. 467.5 This feature had been observed in the 1990s series of aphelic oppositions, but better quality imaging has revealed it in much greater detail this year. The cap sometimes showed an irregular edge, as shown by Ken Howlett in Figure 3D. Long after opposition, observers were able to catch Olympia separated from the cap.

Past opposition reports
Our analysis of the great perihelic opposition of 2003 was published in October and the current Journals. The final report on the 2005 opposition was accepted for publication by Council at its meeting in September, whilst the 2007–’08 report is about half completed, so that the Director hopes to be working upon the full Section Report for the present apparition during the next year, thereby bringing our work up to date. A list of all contributors will appear in the final reports.

Richard McKim, Director
3 R. J. McKim, ibid., 120(5), 299 (2010)
4 BAA E-circular no. 467, 2010 Jan 28
5 BAA E-circular no. 472, 2010 Feb 4
Autumn supernova discoveries by BAA members

Both Tom Boles and Ron Arbour have made further supernova discoveries. They were found in 2010 August and September but came just too late for the October Journal. Tom’s discoveries were made from his observatory in Coddenham, Suffolk using one of his 35cm Schmidt–Cassegrain patrol telescopes. They are listed above, and bring his total to 136.

Ron Arbour’s latest discovery, his 24th, was made on 2010 Sept 1 in galaxy NGC 6621, a 12.2 mag Sb galaxy in Draco. The supernova type has not as yet been determined. All five discovery images are given here.

Recent SN discoveries by Tom Boles

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David Grennan’s supernova: a first for Ireland!

David Grennan, based in Dublin, joined the UK Nova/Supernova Patrol early in 2010 with the specific aim of looking for supernovae by imaging regular galaxy fields using a 36cm Schmidt–Cassegrain telescope and CCD. Some patrolling had been carried out in earlier years but the appeal of a team approach was that others could help confirm possible discoveries reasonably promptly.

Imaging is now the favoured method as although Rev Evans of Australia has found many bright supernovae visually, the fainter extra-galactic supernovae ideally require an imaging technique, with many found in the range of magnitudes 17–19. David’s observatory is called Raheny (MPC J41) and was founded in 2006.

David selected target galaxies in the magnitude range 12–15 and closer than 150 megaparsecs with the intention that a supernova would hopefully be bright enough to record, but in galaxies which, in many cases, were not intensively covered by other observers. Given local conditions and an aim to reach magnitude 19, exposure times of 60 seconds are normally used, with two shots on each patrol session to eliminate cosmic ray hits and other spurious objects. Much of the target selection, investigation and reporting has been computerised using software written by David.

On 2010 September 17, after an observing run on potential Near Earth Asteroids, David debated whether to close down for the night but luckily changed his mind and moved on to a supernova patrol. On imaging the second galaxy of the night, UGC 112 in Andromeda, he noted a magnitude 18.7 star which was not on an earlier exposure of 2010 August 20 which had a limiting magnitude of 19.2. It was also not shown on images from the Palomar Sky Survey (Figure 1). The image of UGC 112 was the 2,611th survey image taken in 2010 by this observer. A further check was made at: http://www.cfa.harvard.edu/iau/lists/RecentSupernovae.html in case the object was already known but nothing corresponded. A lengthy series of exposures also eliminated movement and the possibility of an asteroid.

The suspect was flagged with Dan Green at the Central Bureau for Astronomical Tel-

Figure 1. SN 2010ik discovery image on 2010 Sept 17 compared with Palomar Sky Survey
Solar activity continued to increase for the third month in a row since the low of April. Activity was more akin to that in March this year but with a more even north/south divide. The Quality figure also increased to the highest figure since 2010 February. Observers reported activity on every day of the month during July.

Further confirmation images by Martin Mobberley and Tom Boles obtained in near Full Moon and often damp conditions, unavoidably introduced some scatter in the photometry. All of this meant that whilst the object was clearly on multiple images and genuine, Dan Green was ideally waiting for spectral confirmation that the object was actually a supernova rather than some form of variable star.

The author contacted Chris Benn at the William Herschel Telescope at La Palma and the team there were quite receptive about the possibility of using that instrument to secure a spectrum, although it might need to wait for a service slot in several weeks time. After liaison with Stephen Smartt at the Astrophysics Research Centre at Queen’s University Belfast who had access to earlier time slots, he agreed to arrange a spectrum on alternative telescopes.

On 2010 October 3, Stephen’s team secured a spectrum using the Nordic Optical Telescope confirming the new object was a peculiar supernova of type-Ib/c, then apparently 1–2 weeks after maximum light with similarity to supernovae 2008bo, 2005bf and 2008ax. The R magnitude was derived as 18.7 which was faint for the proposed type.

The patrol team continued to secure images and photometry (Figure 2) and although scatter did arise, the overall impression was the object remained in a plateau phase, equally unusual for type-Ib/c and more often seen in type-IIP.

Based on the spectral confirmation, CBAT designated the object Supernova 2010ik and announced it on their Electronic Telegram 2479. Hopefully this announcement may have encouraged others to extend the light curve. On the date of the meeting of the Association in London on October 27 the author mentioned to those present that the object had not shown a fade and perhaps had slightly brightened. Peter Birtwhistle recorded it on October 16 at magnitude 18.2 (comparisons from the CMC14 catalogue) and Virgilio Gonano, based on an unfiltered exposure of 2010 October 19 with a 0.45m telescope at Remanzacco Observatory, about one month after the discovery, derived a magnitude of 17.7, apparently still brightening. We welcome further results.

Congratulations to David Grennan on the first supernova found by an observer in Ireland.

Guy M Hurst, Coordinator, UK Nova Supernova Patrol

Streamers

Streamer prominence estimated to be some 200,000 miles in height on July 28. Image by Alan Friedman.

AR1090 N23°/149° appeared near the NE limb on July 24 type Axx. The following day it was type Bxo consisting of 3 small spots but faded back to Axx on July 26 and was not seen thereafter.

AR1092 N13°/70° was first seen emerging over the eastern limb on July 28 type Hsx. The group remained on the disk to the end of the month showing an enlarged penumbra by July 31 which made the spot visible to the protected naked eye.

6 observers reported a Quality number Q=3.38.

H-alpha

Prominences

15 observers reported a prominence MDF of 3.16 for July.

July started with small unremarkable prominences, the bulk of H-alpha activity being in the form of filaments. On Jul 5 a pair of prominences was seen above the N limb having presumably been ejected from the limb.

A major prominence group was seen just south of the W limb on Jul 9 and another major curtain prominence was present just north of the W limb. A large incomplete arch graced the NW limb.

A hedgerow prominence reached a height
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of 47,000 km above the NW limb on Jul 13 which stretched across the limb for approximately 223,000 km.

On Jul 19 a large bright prominence group graced the NWW limb and a prominence hedge was visible on the E limb with an associated filament.

An extensive prominence hedge was seen on the ENE limb on Jul 21 including a fine pennant prominence. Two large flame prominences were on the SSE limb and a prominence hedge on the WNW limb included a fine arch.

Two large double masses seen on Jul 22 at NE-40° became a high Eiffel Tower on Jul 24.

Also on Jul 24 another hedgerow prominence stretched along the NE limb for approximately 214,000 km and a rocket shaped prominence on the SE limb reach a height of about 84,000 km.

On Jul 2, 3 & 4 a string of filaments was present in the northern hemisphere, straddling the meridian on Jul 2. On Jul 3 when it was less fragmented, the total length of the feature was estimated to be 30°. Most of this filament disappeared by Jul 5 but a long dark filament was still evident.

An S shaped filament was seen near AR1087 on Jul 10 & 11.

Two filaments were seen in association with AR1087, east and west of the sunspot group, on Jul 12. The following day a strong filament aligned north/south was west of AR1087 and an east/west aligned filament was just south of the same group.

Bright thin plage was seen curling around AR1087 on Jul 13 forming an intricate pattern around the sunspot group.

On Jul 19 an area of bright plage and embedded spots (AR1087) and filaments were observed near the WNW limb. Three further dark filaments were seen in the NW sector and an extensive area of bright plage was seen near the SE limb and a small dark filament.

Very bright plage was seen on the W limb against a small filament on Jul 21. Also a long filament graced the NW quadrant and two dark filaments were associated plage near the E limb.

Two very long dark filaments aligned east/west were present in the NE quadrant on Jul 28 and were still distinct the following day.

2010 August

A substantial increase in activity in the northern hemisphere this month has produced the highest relative sunspot number since 2007 January. The MDF for the northern hemisphere is the highest recorded since 2005 December. However, most observers recorded Aug 19 to 23 as a blank disk.

AR1092 N13°/079° remained on the disk from the previous month (see image) and was recorded as visible with the protected naked eye on Aug 1 – 5 inclusive. The group was a stable H type spot which was occasionally accompanied by a small companion. The penumbra of the group decreased in size during its transit and it was last seen on Aug 9 rounding the western limb. The group possibly re-emerged on Aug 24 as AR1101.

AR1093 N11°/353° appeared round the eastern limb on Aug 4 type C so containing 6 spots. The minor spots in the group declined leaving a single Hsx spot on Aug 7. By Aug 14 the group was type Dso and approaching the western limb with a cluster of 10 small spots before reducing to type Bxo on Aug 11. The group was not seen thereafter.

AR1097 N33°/272° made a brief appearance on Aug 10 & 11 type Axx.

AR1098 N14°/302° appeared on the disk type Bxi on Aug 11 amongst 4 other groups that day. The group was type Cro on Aug 12 but faded to type Axx the next day and was not seen again until a re-emergence on Aug 16. The group faded again and was last seen on Aug 18.

BAA sunspot data, 2010 July–August

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MDFg 1.28 (56) 1.81 (53)
Mean R 19.06 (47) 23.44 (45)

North & south MDF of active areas g

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g = active areas (AAs)
MDF = mean daily frequency
R = relative sunspot number
The no. of observers is given in brackets.
6 observers reported a Quality number Q= 3.94

**H-alpha**

**Prominences**

14 observers reported a prominence MDF of 3.66 for August.

On Aug 4 the NE limb soared a prominence reaching a height of approximately 84,000km and also a hedgerow prominence stretching around the limb for 168,000km. These were still present on Aug 5 and were joined by an impressive prominence display on the SW limb.

A strong flame was seen on the NE limb on Aug 12 and also a tall forked pillar prominence on the SW limb which reached a height of 121,000km. The flame prominence was still strong on Aug 13 but had now developed into a loop with a central column.

A parasol shaped prominence was evident on the SW limb on Aug 18 and also a thick arch which appeared broken by the following day at NE30°.

The NE limb was covered in prominences on Aug 20 and an Eiffel Tower shaped prominence was seen on the W limb.

A double arch prominence and a filaprom were seen on the N limb on Aug 22 and also a major prominence hedge just north of the E limb point.

On Aug 23 a prominence reached the height of 140,000km on the NE limb and several very tall narrow strand prominences were noted above the SE limb. A very striking prominence was seen on the SW limb at 09:10 UT on Aug 27.

A major prominence hedge was present on the SE limb on Aug 31 with connecting matter to a smaller prominence to the north. Also a complex prominence curtain graced the NNW limb.

**Filaments & plage**

9 observers reported a filament MDF of 2.45 for August.

On Aug 4 a dark east/west filament was seen to the north of AR1092. A large ‘S’ shaped filament was seen in the region of AR1093 on Aug 6.

A long filament was present in the NE quadrant on Aug 9 and plage was noted around AR1093 and AR1096.

Two long filaments were seen on the disk on Aug 12, one in the NW quadrant and the other in the NE. Plage was seen around AR1098 on Aug 17 & 18.

Three filaments were seen on Aug 18 all in association with AR1100, together with a very bright plage patch to the east and north of the sunspot group. Filaments remained evident around this active region on the following day although the group was no longer visible in white light.

On Aug 22 a dark filament was near the N limb and two dark filaments were between the disk centre and the E limb. Two long dark filaments were seen either side of an AR plage in the SW quadrant. A long dark filament was seen approaching the western limb on Aug 25 in the SW quadrant.

Bright plage was noted around AR1100 on Aug 26.

On Aug 31 plage was seen preceding AR1102. Also a large filament was north of the disk centre with a detached dusky patch at the northern extremity, and a filament was seen near the W limb.

**Lyn Smith, Director**

**Campaign for Dark Skies**

**CfDS award for Isle of Wight hotel**

On 2010 October 7, BAA member Peter Mugridge and Campaign for Dark Skies (CfDS) coordinator Bob Mizon travelled to the Isle of Wight to recognise and reward good lighting practice at a popular tourist hotel.

The owners of the Sentry Mead Hotel at Totland Bay near Yarmouth much impressed Peter on a family holiday in August when they offered, unbidden, to turn off all the exterior lights to facilitate viewing of the Perseid meteors.

Such a degree of awareness of the value of the starry sky prompted Peter to write to Bob, recommending an award, which Bob agreed was well deserved. Proprietors Sarah Langford and Jean-Pierre Kujawa were present to receive the CfDS Award of Appreciation, and Brian Curd of the local Vectis Astronomical Society kindly supported the event with both his presence and with transport.

The Award of Appreciation has been given to many friends of the night sky, who, while not necessarily astronomers, have shown regard for the environment above. Previous recipients include broadcaster John Humphrys, who has often mentioned light pollution in his broadcasts (see *JBAA* 110(4), p.172), and Professor Monica Grady, who in the TV series *Seven Wonders* (1997) spoke out in defence of dark skies.

**Bob Mizon,** Coordinator, CfDS
For many, the best comet of the year is likely to be 2009 P1 (Garradd), which might reach 7th magnitude at the end of the year. The most spectacular example of such fragmentation is 73P/Schwassmann–Wachmann, which exhibited a debris string of over 60 components as it passed close to the Earth in 2006 May, and which returns this year. Ephemerides for new and currently observable comets are published in the BAA Circulars, Comet Section Newsletters and on the Section, CBAT and Seiichi Yoshida’s web pages. Complete ephemerides and magnitude parameters for all comets predicted to be brighter than about 21° are given in the International Comet Quarterly Handbook; details of subscription to the ICQ are available on the Internet. A Section booklet on comet observing is available from the BAA Office.

27P/Crommelin has a poor return and will not be visible from the UK. Its maximum elongation whilst brighter than 14th magnitude is only 37°, and it is then at a northern declination, so it is possible that no-one will make a visual observation. The comet is named for the BAA Comet Section Director, A. C. Crommelin, who first computed a linked orbit for comets seen in 1818, 1873 and 1928. It was quite well observed in 1984 when it served as a test object for the International Halley Watch.

29P/Schwassmann–Wachmann is an annual comet that has outbursts, which in recent years seem to have become more frequent. The outbursts were more or less continuous in 2008/9 and at some the comet became as bright as 10th magnitude. The comet is an ideal target for those equipped with CCDs and it should be observed at every opportunity. The comet begins the year retrograding in Leo and reaches opposition on March 7, when it may show some additional brightening because of the small phase angle. It moves into Sextans in late March and resumes direct motion in May, when UK observers will lose it. The comet passes through solar conjunction in September but UK observers are unlikely to pick it up again until the new year as it is now at a southern declination. This year there is an excellent return of 45P/Honda–Mrkos–Pajdusakova. Southern hemisphere observers are likely to pick it up near opposition in July, when it is a 12th magnitude object in Pisces Austrinus. It heads even further south, brightening rapidly.

Comet prospects for 2011

The date of perihelion (T), perihelion distance (q), period (P), the number of previously observed returns (N), the magnitude parameters H₁ and K₁ and the brightest magnitude (which must be regarded as uncertain) are given for each comet. The magnitudes, orbits, and in particular the time of perihelion of the D/ comets are uncertain. Note: m₁ = H₁ + 5.0 * log(d) + K₁ * log(r)

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<th>Comet</th>
<th>T</th>
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<th>P</th>
<th>N</th>
<th>H₁</th>
<th>K₁</th>
<th>Peak mag</th>
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as it passes only 0.06AU from the Earth on August 16, when it might be seen with
the naked eye. It passes through conjunc-
tion at the end of the month and fades a
little, but brightens again as it approaches
perihelion at the end of September. UK
observers get a chance to see it between
mid September and mid October, although
it will be quite low in the morning sky.

73P/Schwassmann–Wachmann is un-
likely to be as well seen this year
when compared to its astonishing display in 2006, when many frag-
ments were seen strung along the
orbit. The two brightest fragments
should be recovered, but their bright-
ness is uncertain as the fresh sur-
faces from the break-up are likely to
have aged.

2009 P1 (Garradd) currently holds the best prospect for UK ob-
servers. We should be able to pick
it up around mid-summer, when it
may already be 10th magnitude. Moving north and west from Pis-
ces, it reaches opposition in early
August on the borders of Pegasus
at perhaps mag 9. It becomes nearly
stationary in Hercules in Novem-
ber, but then accelerates north-
wards, ending the year here at ap-
proaching mag 7.

One SOHO comet is predicted to
return, and should become visible in the
SOHO LASCO field if the satellite is still
operational, or in the STEREO fields.
The other periodic and parabolic com-
ets that are at perihelion during 2011 are
unlikely to become brighter than 12th mag-
nitude or are poorly placed. Ephemerides
for these can be found on the CBAT
WWW pages. Several D/ comets have pre-
dictions for return, though searches at fa-
vourable returns in the intervening period
have failed to reveal the comets and it is
likely that they are no longer active. There
is however always a chance that they will
be rediscovered accidentally by one of the
sky survey patrols.

Looking ahead to 2012, P/Levy (2006 T1)
could be 7th magnitude just after perihelion
in mid-January, when it passes 0.19AU
from the Earth. It is well placed prior to
perihelion and UK observers should be able
to follow it through the autumn and winter of
2011, with the comet reaching 9th mag-
nitude by the end of the year. There is how-
ever some uncertainty about its brightness,
as it seems probable that it was in outburst
at discovery. 2009 P1 (Garradd) will be at
its best during the first couple of months of
the year and becomes circumpolar at this
time. 96P/Machholz will be a bright object
at perihelion, but is then close to the Sun
and will not be visible from the UK.

Jonathan Shanklin, Director

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Comet Hartley 2 seen by NASA’s EPOXI

An image of Comet Hartley 2 taken by NASA’s EPOXI mission from a distance of about
700km as the spacecraft flew by on 2010 November 4. The comet’s nucleus is
approximately 2km long and 0.4km wide at the ‘neck’ or narrowest portion. Jets can be
seen streaming out of the nucleus. NASA/JPL-Caltech/UMD
They say you should never meet your heroes for fear of disappointment. Perhaps that’s true in most cases but not when it comes to Sir Patrick Moore. On a fine day in July this year my family and I visited Patrick at his home in Selsey and spent a memorable afternoon with the world’s most famous astronomer.

The visit was sparked by my son’s growing interest in astronomy and his wish to study physics at university. We eventually arrived at mid-day having been delayed twice en-route by unexpected traffic jams and a malfunctioning satnav. Twice we had phoned ahead to say we’d be late and on both occasions our host had been charming and gracious about the delay. Indeed those two qualities were to epitomise both the man and the few hours we spent at Farthings, Patrick’s home now for over forty years. The thatched cottage and surrounding gardens are idyllically quiet, with a rural feel, a local microclimate helping to create a sensation that one might be in the south of France.

Not knowing quite what to expect we were ushered into Patrick’s office, where we were immediately made to feel welcome. Although you are undoubtedly in the presence of scientific royalty, there is no standing on ceremony when you meet Patrick, and he quickly asked me to stop addressing him by his knighthood! ‘Please, not Sir Patrick…’

Patrick’s study is smaller than it seems on Sky at Night magazine, a location immediately recognisable from the programme which Patrick has been hosting now for over half a century. Patrick’s first telescope stands in the hall (a three inch brass eyepiece which now occupy pride of place on Alex’s bookshelf in our own home, and a feeling that we had just spent a lovely afternoon with a very special man and his family. To have received such hospitality and to have been treated to such entertaining and intelligent company was very humbling.

‘Thank you, Sir Patrick!’